agricultural situation

THE CROP REPORTERS MAGAZINE • JANUARY-FEBRUARY 1974
U.S. DEPARTMENT OF AGRICULTURE • STATISTICAL REPORTING SERVICE

AGRICULTURE AND THE ENERGY CRISIS

AGRICULTURE AND THE ENERGY CRISIS

We were warned. Remember the scattered brownouts of recent summers? Remember the closing of some midwestern schools and businesses in the winter of 1972, the cutback in fertilizer production last spring, the shorter hours for gas stations during the summer?

Despite such intimations of trouble, the severity of the current energy crisis has come as something of a shock to many Americans. How could our energy reserves have shrunk so appallingly low with so little public awareness until so very late?

Dr. Roy M. Kottman, Dean of the College of Agriculture and Home Economics at Ohio State University, and director of that State's Agricultural Research and Development Center and Cooperative Extension Service, recently spoke to USDA officials about the current energy crisis—its scope, its implications, possible solutions.

Below are some excerpts from Dr. Kottman's talk.

What actually is the current situation—how big are our energy reserves?

Ninety-six percent of the energy used in the United States today comes from fossil fuels—primarily oil, followed by natural gas and coal. A period of 600 million years was involved in formation of these fossil fuels—but today our supplies have been reduced to a mere 60 years' worth at current consumption rates.

However, current consumption rates can't be expected to prevail because annual energy use in this country is expected to double by 1985 and triple by 2000.

Our proven domestic reserves of crude oil are now only about seven to nine times annual production—and we're using more than we're finding.

If we are to hold oil imports at the present level, the U.S. petroleum industry must find as much oil during the next 11 years as it has produced during the 115 years which have passed since oil was first discovered at Titusville, Pa. in 1859.

Or looked at another way, this means that each year we must find the equivalent of the amount of oil discovered in Prudhoe Bay, Alaska in 1968. That's a formidable, if not impossible, task.

The picture for natural gas is much the same. Known domestic reserves will last only 11 or 12 years at current usage rates. As with petroleum products, we're relying increasingly on imports.

Fortunately we have enough coal, at current consumption rates, to last at least 800 years. But our natural preference is for oil and gas, which are environmentally clean and easy to handle.

Only 10 to 15 percent of our coal reserves are low enough in sulfur content to meet the requirements of the Clean Air Act of 1968. Coal is also difficult and costly to mine, transport, and burn.

How much energy are we using?

The United States—with 6 percent of the world's population and 6 percent of the world's fossil fuel reserves—is currently using 33 percent, one-third, of the energy consumed around the globe. In all, this amounts to about 230,000 calories of fuel and electrical energy per American per day. That's 77 times the amount of food energy each of us consumes each day.

More than half of the energy used in the United States goes to reduce or eliminate much of the backbreaking labor that characterized the human condition until very recently.

Only a quarter of a century ago, our Nation's energy resources were applied primarily to the production of heat for physical comfort.

Today the industrial sector is the major user of energy, followed by

transportation, residential, and lastly, commercial applications.

Included in the industrial sector's share are substantial quantities of energy used in the production, processing, transportation, and preparation of food and other raw materials of our farms and forests.

On-farm use of tractor fuel, heating and drying fuels, and electricity accounts for about 1.6 percent of the country's total energy use. An additional 1.9 percent of the total is required to produce the inputs for farms and ranches—the fertilizer, pesticides, farm machinery, and so on.

However, the major energy requirements for agriculture and forestry come after the raw materials leave the farm and forest.

Energy requirements for the processing and transportation of agricultural products claim 7 to 12 percent of all the energy consumed in the United States.

The import situation.

We are currently meeting about 25 percent of our petroleum requirements through imports and, short of a miracle, we will have to import about 50 percent by 1985.

We've already had a taste of the difficulties which can result from such heavy dependence on foreign energy suppliers—but the potential effect that huge outlays for foreign oil will have on our balance of payments could prove even more troubling.

It is likely that we will be spending $14 billion for foreign oil by 1975 and $30 billion by 1980.

Even if we were both willing and able to spend such huge sums on overseas oil, the worldwide fossil fuel reserve situation in relation to future needs is generally no better elsewhere than in the United States.

The hard facts of the matter are that the era of the hydrocarbon is coming to an end—and we're eventually going to have to develop alternative energy sources.

How can we relieve the current energy shortage?

To meet our near-term energy needs it is likely that the crown may have to be returned to "Old King Coal."

Coal output will need to be stepped up sharply while, at the same time, practical methods will have to be developed for pre-combustion cleaning of coal to meet environmental standards. This can be done by the gasification, liquification, or solvent extraction of sulfur from raw coal.

Also, by converting the energy in coal to either gas or liquid form, we can use pipeline transportation, which will alleviate the problem of using large amounts of energy to transport coal across the countryside.

As a second priority, oil can be obtained from the shale which abounds in Colorado, Utah, and Wyoming.

Potential reserves of oil-bearing shale may amount to as much as 120 years' supply at present levels of oil use.

Right now, however, there are no economically feasible methods of recovering oil from the shale. But if such methods could be developed our shale reserves could be yielding as much as 275 million barrels of oil each year by 1985. However, that's only about 2 percent of current oil use, so shale can't be considered the panacea for our energy crisis.

Electricity will continue to play an increasingly important role in our Nation's energy picture—but much more research is needed to make the conversion of fossil fuel to electrical energy more efficient.

Currently less than 40 percent of the fossil fuel energy used in power plants is actually captured in the form of electrical energy. Present estimates are to the effect that this could be stepped up to about 50 percent by the year 2000.

It is thought that the use of magneto-hydrodynamics — which creates an electrical current by passing a stream of hot, ionized gas at high speed through a powerful magnetic field—offers considerable potential for improving the efficiency of producing electrical power.

The only large scale nonfossil source of energy which is operationally feasible at this point is nuclear power. However, construction of nuclear power plants is far behind schedule because of safety and environmental concerns.

Only about 50 nuclear fission generating plants are now operational but 50 additional plants are under construction and firm orders have been placed for 75 additional beyond the 100 nuclear fission plants now operating or being constructed.

Nuclear power plants account for only 1 percent of the energy used in this country—which is less than is being obtained from burning wood.

The expansion of our nuclear energy producing capacity would help a great deal in meeting our near-term energy needs.

However, if the United States is going to meet all of its own energy needs in the future, there's a need for concentrated research on many fronts. There are a number of new energy sources (see the table on pages 5 and 6) which may take years of research and development to bring "on stream." But some of these may be the ultimate answer to our long-term energy problems.

Potential Energy Sources

Nuclear fission

Nuclear fission represents the only large-scale, relatively nonpolluting, non-fossil energy source which is operationally feasible now. A major problem with fission-type reactors is that they utilize uranium and our Nation's supply of uranium is not only very limited but is rapidly becoming prohibitively expensive. Even the fast-breeder reactor which creates more nuclear fuel than it burns is not scheduled to come on stream until the decade of the 1980's. The waste products from the fast-breeder reactor, like those of the present uranium fueled reactors, are highly radioactive and must be contained and stored with great care for centuries.

Nuclear fusion

This, the process that fires the sun and the stars, may be the ultimate answer to the world's energy problems. Fusion releases only small amounts of radioactivity, and it can be fueled with deuterium which is available in almost unlimited quantities in the oceans. At this point in time, however, scientists do not have sufficient evidence that controlled fusion is feasible.

Hydrogen

Hydrogen can easily be produced by electrolysis of water, and is a secondary energy source derived from nuclear power. Hydrogen can, of course, also be derived from coal. Hydrogen can be used directly in engines, or it can be used to generate electricity. The technology required to make hydrogen useful for residential or automotive applications is already available but a great deal of technological refinement is needed.

Solar

The United States receives enough thermal energy from the sun to meet its energy needs 500 times over. Already the sun's rays have been used successfully in various parts of the world for solar cookers, for producing crops in greenhouses, for heating water, and for heating homes and factories. Unfortunately solar energy is of low density and its availability is subject to vagaries of the weather as well as latitude and the day-night cycle. But many of these drawbacks could be overcome by going out into space—some 22,300 miles—with huge satellites which would transmit the sun's energy to Earth by means of microwave generators. Just one such solar energy satellite could provide enough energy to supply the total energy needs of all of New York City. Solar energy could eventually supply as much as 35 percent of the heating and cooling of all of our buildings.

Agriculture

Agriculture could well become a major source of energy in the future. Presently plants are the major converters of solar energy into usable and storable energy, and plants represent a renewable source of energy. A bushel of corn and a bushel of wheat, for example, can each produce nearly 3 gallons of alcohol, which can be used as fuel. Scientists are already exploring the possibility of chemically treating and then physically distilling soybean oil to produce a fuel substitute for gasoline, liquified natural gas, and other forms of energy producing fuels. But while farm crops offer a means of tapping the inexhaustible, virtually nonpolluting solar source of energy, the use of crops as a major energy source will await the development of the technology for vastly increasing farm production. The first concern of agriculture must be to meet the need for food; only after this is done could it become a fuel source.

Wastes

The United States produces as estimated 940 million tons of solid wastes each year—wastes with an energy value equal to 1.2 billion barrels of oil.

One of the future challenges in agricultural research will be to develop and implement effective, economical methods for using waste products from agriculture and forestry. Such products include cereal straw, grain hulls, corn stalks, soybean straw, sawdust, wood pulp, and animal wastes. Livestock and poultry manure produced in this country embody a potential volume of methane gas equal to 5 percent of U.S. natural gas production.

MEETING FARM FUEL NEEDS

"Agriculture is receiving top priority at the Federal Energy Office," asserted William E. Simon, Administrator of that Office, when he spoke to delegates at the 1974 National Agricultural Outlook Conference in December.

"We're giving farm needs priority treatment for one simple reason—agriculture is vital to the health of this Nation's population and vital to the health of its economy," Simon continued.

"The future stability of our dollar is dependent on our balance of payments, and a major ingredient in providing us with a surplus will continue to be agricultural exports."

Simon outlined what his office expects in the way of increased agricultural fuel needs in 1974. "If American farmers plant 10 million additional acres in 1974—and this acreage is available—farm fuel needs will increase over what was used in 1972 by more than 1 million barrels of gasoline, about 12 million barrels of diesel fuel, and approximately 2 to 4 million barrels of liquified petroleum gas."

"There is no question that farmers will have to contribute to energy conservation, just like other sectors of the economy. However, I believe that farm needs are really national needs," he went on to say.

For that reason, in the Mandatory Allocation Regulations proposed by the Federal Energy Office the week of December 9th, and scheduled to go into effect on December 27, the following provisions were made:

—Gasoline will be provided to agricultural users on a priority basis, supplying 100 percent of what they need.

—Propane, butane, and mixes will be provided to agricultural users on a priority basis, supplying 100 percent of what they need.

—Residual fuel oil will be provided to agricultural users on a priority basis, supplying 100 percent of current needs.

—Diesel fuel allocation regulations were still being worked out. However, it was hoped the regulations could be designed to provide for the needs of agriculture, utilizing a suitable base period.

THE ENERGY CRISIS AND 1974 FARM PRODUCTION

A new high in agricultural production is still a possibility in 1974—even in the face of tight supplies of fuel, fertilizer, and other farming inputs.

But setting a record is going to take intelligent use of all shortage items, and farmers are going to have to adopt stringent conservation practices, states Nicholas Smith, director of the newly formed USDA group dealing with the energy crisis faced by agriculture.

When USDA lifted the lid on acreage controls last year, it freed up about 16.8 million acres of set-aside land for planting.

But estimates made by economists early in December 1973 suggested only about 10 million of these acres would actually be put into row crop production this year as machine and labor constraints, conservation needs, irrigation water availability, high demand for hay and forage crops reflecting demand for beef—not just fuel and fertilizer shortages—limit 1974 plantings.

(Note: SRS' Winter Wheat Seedings Report, published on December 21, 1973, and the January 1974 Prospective Plantings Report, to be issued January 22, both are important indicators of the size of this year's plantings. However, data from these reports were unavailable when this issue went to press.)

In 1973 the country's food supply came from 354 million acres of cropland and required an average of 22 gallons of petroleum fuel per acre to produce (11 gallons of gasoline, 7 gallons of diesel oil, and 4 gallons of liquid petroleum gas).

The 10 million acre increase envisioned by USDA early last December would indicate at least a 3 to 4 percent hike in fuel requirements over 1973, Smith states. Much of this would be diesel fuel because of the rapidly increasing use of diesel equipment in modern agriculture.

While agriculture has been designated a priority fuel customer and can expect to receive some additional fuel allocations this year, part of the total needed for the extra 1974 acreage will have to come from conservation—farmers will simply have to save on fuel use elsewhere.

There is considerable potential for a fuel cutback: USDA Extension engineers estimate optimum energy conservation measures could have

saved as much as a tenth of the fuel used by farmers in 1973.

However, Smith feels that with the equipment that is available and with good fuel management practices, a realistic target is a 4 to 5 percent increase in fuel efficiency in 1974.

Smith warns, however, that some trade-offs may have to be made between energy-saving practices and peak production.

For example, use of shorter maturing grain varieties—which allow farmers to harvest earlier and thus save on drying fuels—may cut down some on yields per acre.

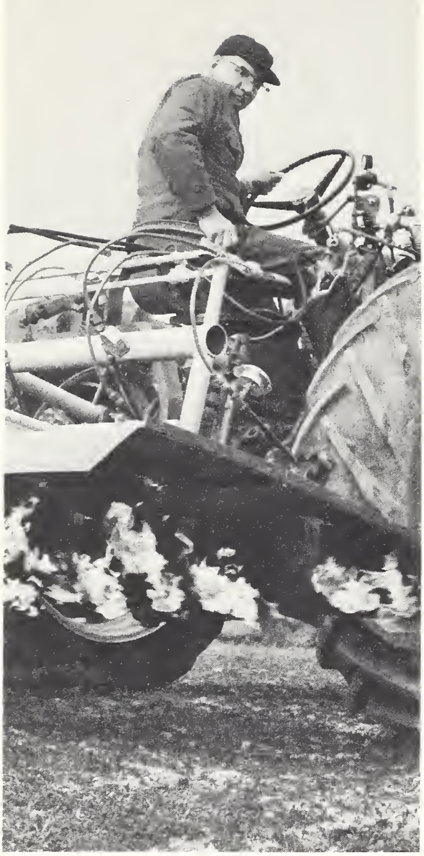
Natural air drying of grains is another energy saving practice open to farmers. However, when a crop is simply left in a field to dry of its own accord, the losses from disease, pests, and bad weather start to mount. Even with normal weather, USDA economists calculate that losses climb at a rate of about 1½ percent a week after the crop reaches maturity.

To assist farmers in getting the fuel they need to produce at record rates this year, USDA will continue to monitor the fuel situation for agriculture through the local offices of various of its agencies.

Ever since the fall of 1972—when fuel scarcities disrupted grain drying in the Midwest—USDA has been monitoring the fuel situation; estimating fuel needs by State, type of fuel, and time needed; and providing this information to government energy officials. The purpose of such estimates was to encourage the flow of fuel under voluntary programs into needy areas before outages actually occurred.

Smith indicates the fuel monitoring program will be continued and expanded this year to facilitate fuel movement under the various government allocation programs.

As of early December, Smith's assessment of the farm fuel situation showed it to be: generally adequate for gasoline, except in a few localized situations; tight for diesel fuel in most States where this fuel was in heavy demand for current farming operations; and generally satisfactory in most parts of the country for propane gas for crop drying.



what can farmers do about shortages?

OPERATE EFFICIENTLY

Some very simple operating strategies can help farmers realize sizable savings on their fuel needs.

Below are some practices recommended by USDA Extension engineers which farmers may wish to adopt:

Tune Up. Careful adjustment of the fuel-air ratio, correct timing, good plugs, and a clean cooling system are essential for farm machinery to operate at maximum efficiency.

A survey of farm tractors in Illinois several years ago showed that nearly three-fourths were capable of developing only 75 percent of their rated power because of neglected maintenance.

Paint Your Tank. As much as 3 percent of fuel stored above ground in dark colored, unshaded tanks can evaporate. Evaporation losses can be cut to less than 1 percent, however, if the tank is painted white and capped with a pressure vent. Shading the tank can substitute for painting.

Use the Right Tractor. U.S. farms average three tractors nowadays. Farmers can save fuel by using the right one for the right job.

Tractors operating at rated engine speed provide better fuel efficiency at full loads than at light loads. For example, a 45-hp tractor will put out 11 hp-hours of work for each gallon of gasoline when operated at a full load. Now if a 100 hp tractor were put on the same job requiring 45 hp, fuel efficiency would drop and only about 8 hours of work would be obtained from each gallon.

Plow Shallower. Except for tubers, plowing more than 7 inches deep does little to improve crop yields. Yet power requirements and consequent fuel use increase markedly

when going from 7 inch to 11 inch plowing. Sharp plowshares will also cut down on fuel needs by improving penetration and reducing draft.

Sharpen Knives. Dull knives can double the power needed to operate a cutter bar. Knives and other shear bars need to be kept sharp for maximum energy efficiency. It's also important to maintain proper bar-to-knife clearance.

Chop Forage Coarsely. Farmers who have been cutting forage at a 1/8 inch setting can realize big power savings by doubling the length of the cut to 1/4 inch. Such a change reduces power take-off requirements per ton of forage by about one-third.

Break Fuel Wasting Habits. Whenever quipment is likely to be inactive for some time, it pays to shut off the engine.Restarting the motor will often use considerably less fuel than idling.

Working fields the long way cuts down on the number of turns that are an inefficient use of fuel energy.

REDUCE TILLAGE

Farmers can realize a double savings—on fuel and on labor—if they opt for some form of reduced tillage system when planting their 1974 crops. And, as the table below shows, savings are considerable.

USDA engineers calculate farmers can just about cut their fuel needs in half and their labor needs by 40 percent if they practice reduced tillage (which skips plowing, disking, and harrowing) or minimum tillage (which uses a till planter without planting).

No-till systems are even more economical where soil conditions permit their use. Savings can amount to as much as 80 percent on fuel and 60 percent on labor.

ENERGY ESTIMATES FOR CROP PRODUCTION

Item	Various tillage systems			
	Conventional	Reduced	Minimum	No-till
Fuel requirements:				
Field operations (total horsepower hours per acre)	66.6	37.3	30.7	11.2
Fuel equivalent (gallons per acre)				
Gasoline[1]	7.40	4.15	3.40	1.25
Diesel[2]	5.33	3.02	2.46	.90
LPG[3]	8.90	4.95	4.10	1.50
Labor Requirements:				
Man-hours per acre	1.98	1.21	1.19	0.78
Savings over conventional tillage (percent)	—	39	40	61

[1]Conversion factor of 9.0 horsepower hours per gallon.
[2]Conversion factor of 12.5 horsepower hours per gallon.
[3]Conversion factor of 7.5 horsepower per gallon.

TRACKING TRADE

With U.S. farm exports in fiscal 1974 expected to be nearly 50 percent above the record set only the year before, overseas customers are exerting an ever stronger influence on our agriculture.

For this reason, and to detect any potential short supply in major trade items that might affect domestic needs, SRS has begun issuing a weekly report of export sales, *Exports*.

This public release tabulates export sales contracts made for such key commodities as wheat, corn, oats, barley, rye, flaxseed, rice, cotton, soybeans, and several products from these crops.

Recent SRS estimates have indicated U.S. stocks of several of these major export crops were at a low level before the 1973 harvest: wheat down about a fifth from a year earlier; feed grains off a fourth; and soybeans below any mark since 1966.

In June 1973 the task of totalling export sales was started by the Department of Commerce, but the Agriculture and Consumer Protection Act of 1973, which passed Congress later in the year, shifted the responsibility to USDA.

SRS, the USDA's fact gathering group, launched its export program in October. This was SRS' first venture into the foreign agricultural field; previously the agency had concentrated solely on collecting and reporting domestic farm facts.

U.S. exporters are obligated to report each week their outstanding sales contracts for the specified commodities, the marketing year of shipment, and destination, when known.

Exports shows sales to five nations: Russia, Japan, India, Republic of China (Taiwan), and the People's Republic of China. Six geographic areas are also designated: the European Community, Western Europe, Eastern Europe, Asia and Oceania, Africa, and the Western Hemisphere.

While SRS, as with all its reports, supplies no analysis of the export data, the weekly tabulation receives critical scrutiny from traders, U.S. and foreign government officials, and the public.

OUT OF THE RED

Record agricultural exports during October 1973 boosted the total U.S. trade balance into the black for the month and for 1973's first 10 months.

October's agri-exports, $1.7 billion worth, produced a surplus in farm trade of $1 billion. This more than offset a $648-million non-agricultural trade deficit to produce a $376 million surplus for the month. Our surplus for 10 months stood at $232 million.

Briefings

Recent reports by USDA of economic, marketing, and research developments affecting farmers.

INCOME ADVANCES . . . Strong domestic demand coupled with lower world production have boosted use of U.S. farm products around the globe and pushed net farm income for 1973 to a record high of over $25 billion, almost $6 billion above 1972. Prices received for all farm products averaged about 36% over 1972 with crop prices up 40% and livestock prices up a third. With bigger crop marketings offsetting smaller livestock sales, cash receipts rose around $22 billion to over $82 billion. But inflation and raw material shortages took their toll: Production expenses were up 30% over 1972.

EXPORT BOOM CONTINUES . . . U.S. farm exports in fiscal 1974 may well reach $19 billion, way above the previous high last year of $12.9 billion. Agriculture's contribution to the U.S. trade balance could be at an all-time high of around $10 billion, nearly double fiscal 1973's $5.6 billion. USDA economists believe such a surplus could turn our overall trade balance positive in fiscal 1974, in contrast to a $3.5 billion deficit in fiscal 1973.

SUPER SOYBEAN SURGE . . . Recording the highest annual growth rate in history, world soybean production in 1973 is estimated at 58.21 million metric tons (2,319 million bushels). That's 22% above the 1972 total. The unprecedented increase primarily reflects a major expansion in soybean acreage in the United States and, to a lesser extent, Brazil.

SUBSTITUTE STORY . . . As meat prices soared last summer, consumers apparently turned to substitutes and alternative ways to get more meat for their food dollar. One way was to buy more textured

protein-extended ground beef. A 75% beef-25% soy mix sold for 15-20 cents a pound less than pure ground beef. In some parts of the country a substantial portion of the ground beef marketed last summer was reportedly of the protein-extended variety. This may have helped the beef industry by holding customers who might have turned to different protein sources. In general, vegetable textured protein products are becoming more commonplace at the retail store and more widely used by the general public.

SUPERSONIC FLIGHT . . . AGRICULTURAL BLIGHT? Supersonic flight could affect future crop production by increasing the amount of ultraviolet (UV) light that reaches the earth, according to USDA scientists. Such light increases when the exhaust from supersonic transports reacts with ozone in the air. Crops respond differently to UV light; peanuts and wheat are more tolerant to high levels of UV than are tomatoes, lettuce, coleus, millet, and green peppers. Experiments show UV light can reduce green pepper production by almost one-third. For chrysanthemums, however, it is possible to create a positive reaction to extra UV light. At a particular point, exposure of the chrysanthemums to such light inhibits growth of the terminal bud and causes branching. This could be a useful tool for florists who must now rely on chemical or mechanical methods to encourage the desired branching.

UNDERWATER AGRICULTURE . . . High-intensity discharge (HID) lamps, along with total control of the environment, may someday let man grow vegetables in submarines in the depths of the oceans and the far reaches of space. USDA scientists are experimenting with the HID lamps as a means of providing light of the right intensity and quality. The researchers have already found that growth of tomato and lettuce seedlings increases as the amount of light increases. The lamps could be modified to produce faster growth and more efficient use of energy and also conceivably to develop plants which are better adapted to their natural environment.

WHEAT STOCK WATCH . . . With U.S. wheat exports in 1973/74 expected to approach the 1.2 billion bushels of last season, total wheat use this season may top 1973 production of 1.7 billion bushels. That'll leave sharply lower stocks next summer, possibly only 250 million bushels, the lowest since 1948. But stocks may rebuild during the following year as wheat production soars to new records. Experts look for the largest U.S. wheat crop ever in 1974. With prices strong and no planting restraints, farmers are expected to increase acreage, possibly boosting production to the area of 1.9 billion bushels.

Statistical Barometer

Item	1971	1972	1973—latest available data	
Prices:				
All prices received by farmers (1967=100)	112	126	181	November
Crops (1967=100)	107	116	181	November
Livestock and products (1967=100)	116	133	182	November
All prices paid by farmers	120	127	151	November
Ratio[2] (1967=100)	94	99	120	November
Consumer price index, all items (1967=100)	121	125	137	October
Food (1967=100)	118	124	148	October
Farm Income:				
Volume of farm marketings (1967=100)	110	112	106	[2]
Cash receipts from farm marketings ($bil.)	52.8	60.7	84.5	[2]
Realized gross farm income ($bil.)	59.7	68.9	91.4	[2]
Production expenses ($bil.)	44.5	49.2	65.9	[2]
Realized net farm income ($bil.)	15.2	19.7	25.5	[2]
Income and Spending:				
Disposable personal iincome, total ($bil.)	746.0	797.0	890.9	[2]
Expenditures for food ($bil.)	117.5	125.0	141.6	[2]
Share of income spent for food (percent)	15.7	15.7	15.9	[2]
Agricultural Trade:				
Agricultural exports ($bil.)	7.7	9.4	13.6	Jan.-Oct.
Agricultural imports ($bil.)	5.8	6.5	6.8	Jan.-Oct.
Farm Production and Efficiency:				
Farm output, total (1967=100)	110	111	115	November
Crops (1967=100)	112	113	119	November
Livestock (1967=100)	107	108	107	November
Cropland used for crops (1967=100)	100	98	104	November
Crop production per acre (1967=100)	112	115	114	November
Farm inputs, total (1967=100)	102	102	104	November
Farm output per unit of input (1967=100)	108	109	111	November
Balance Sheet of the Farming Sector:				
Assets, total ($bil.)	316.2	341.1	383.5	[3]
Real estate ($bil.)	214.1	230.5	258.7	[3]
Non-real estate ($bil.)	78.5	85.7	98.4	[3]
Livestock and poultry ($bil.)	23.6	27.2	34.2	[3]
Machinery and motor vehicles ($bil.)	33.9	36.0	39.0	[3]
Crop inventories ($bil.)	10.7	11.8	14.1	[3]
Household equipment and furnishings ($bil.)	10.3	10.7	11.1	[3]
Financial assets ($bil.)	23.6	24.9	26.3	[3]
Debt, total ($bil.)	61.1	66.9	73.6	[3]
Real estate ($bil.)	29.5	31.3	34.5	[3]
Non-real estate ($bil.)	31.6	35.6	39.2	[3]
Proprietors' equities ($bil.)	255.1	274.2	309.9	[3]
Debt-to-asset ratio (percent)	19.3	19.6	19.2	[3]

[1]Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates.
[2]Annual rate, seasonally adjusted third quarter.
[3]Data released in October 1973 but refer to January 1, 1973.

AGRICULTURAL SITUATION

JANUARY-FEBRUARY 1974 ● VOL. 58 NO. 1
GERALDINE SCHUMACHER, EDITOR

The Agricultural Situation, published 11 times a year by USDA's Statistical Reporting Service, is distributed free to crop and livestock reporters in connection with their work. Contents of the magazine may be reprinted without permission. Use of funds for printing this publication were approved by the Office of Management and Budget, January 2, 1969. Subscription price $2.40 a year ($3.00 foreign). Single copies 25 cents. Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

U. S. GOVERNMENT PRINTING OFFICE : 1974 O - 529-783

U.S. DEPARTMENT OF AGRICULTURE
STATISTICAL REPORTING SERVICE
WASHINGTON, D.C. 20250

OFFICIAL BUSINESS
PENALITY FOR PRIVATE USE $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101

U.S.MAIL

To stop mailing ☐ or to change your address ☐ send mailing label on this magazine and new address to the SRS office in charge of your State.

Agri Sit
Chief Beef Cattle Research Br
Animal Husbandry Research Div
ARS Beltsville Md 20705